

CLAIMS

5

1. A method for combining at least two adjacent image segments to form a larger composite image comprising:

establishing a first region in which a first image segment will be printed;

10

establishing a second region in which a second image segment will be printed;

defining a buffer region associated with both image segments;

printing the first image segment and the buffer region;

15

modifying the intensity in the buffer region by a first ramp value;

printing the second image segment and the buffer region; and

20

modifying the intensity in the buffer region by a second ramp value.

2. A method according to claim 1 wherein the image segments are substantially overlapping in the buffer region.

25

3. A method according to claim 1 wherein the first ramp rate and the second ramp rate are opposite one another.

4. A method according to claim 1 wherein the intensity in the buffer region sums to substantially full scale.

30

5. A method according to claim 1 wherein the buffer region is represented by a number of pixels from the first image segment and a number of pixels from the second image segment.

35

09882138-061501

1 45223/TJD/O125

5 6. A method according to claim 1 wherein the printing is done through use of a photosensitive medium and intensity in the buffer region is modified by modulating the amplitude of a beam of electromagnetic radiation capable of exposing a photosensitive medium.

10 7. A method according to claim 6 wherein the intensity in the buffer region is modified by modulating the amplitude of a beam of light.

15 8. A method according to claim 6 wherein the intensity in the buffer region is modified by modulating the amplitude of a laser beam.

20 9. A method according to claim 6 wherein the amplitude of the beam is modified by external modulation.

25 10. A method according to claim 6 wherein the amplitude of the beam is modified by internal modulation.

30 11. A method according to claim 6 wherein the amplitude of the beam is modified by acoustic modulation.

35 12. A method according to claim 11 wherein the amplitude of the beam is modified by an Acousto-Optic Modulator.

13. A method according to claim 1 wherein the printing of the first and second image segments is achieved through a process selected from the group consisting of scanning a photosensitive medium by a rotating polygon, rotating single facet mirror or rotating holographic scanner illuminated by the exposing radiation source.

1 45223/TJD/O125

14. A method according to claim 1 wherein the printing of
the first and second image segments is achieved through having
5 a photosensitive medium exposed by a fixed pattern array of
individually segmented light sources.

15. A method according to claim 14 wherein the printing of
the first and second image segments uses a laser beam.

10

16. A method according to claim 14 wherein the printing
of the first and second image segments uses light valves
illuminated by a light source.

15

17. A method according to claim 14 wherein the printing
of the first and second image segments uses micro-mirrors
illuminated by a light source.

20

18. A method according to claim 1 wherein the printing of
the first and second image segments is achieved through having
a photosensitive medium exposed by a fixed pattern array of
radiation sources.

19. A method for creating a buffer region for a composite
25 image comprising:

defining the region as a number of pixels extending
into any two adjacent image segments;

30

defining a first rate at which the intensity of the
pixels in the buffer region will be attenuated across the
region in printing a first image segment; and

defining a second rate at which the intensity of the
pixels in the buffer region will be attenuated across the
region in printing a second image segment.

35

00882138-061501

1 45223/TJD/O125

20. A method according to claim 19 wherein the first rate
and the second rate at which the intensity of the pixels is
5 attenuated are opposite one another.

21. A method according to claim 19 wherein the intensity of
the pixels in the buffer region sum to substantially full scale.

10 22. A printing system comprising:
a pixel counter;
an integrator which outputs an intensity value from an
input ramp rate and an initial value;
a multiplier which converts digital pixel data and an
15 intensity value into analog data; and an intensity
modulator.

23. A printing system according to claim 22 wherein the
intensity modulator is an amplitude modulator.

20 24. A printing system according to claim 23 wherein the
amplitude modulator is an Acousto-Optic Modulator (AOM).

25 25. A printing system according to claim 22 wherein the
intensity modulator is a phase modulator.

26. A printing system according to claim 22 wherein the
intensity modulator is a frequency modulator.

30 27. A printing system according to claim 22 wherein the
intensity modulator is a code domain modulator.

35

1 45223/TJD/O125

28. A printing system comprising:

means for counting pixels;

5 means for computing an intensity value from a ramp rate
and an initial value;

means for converting an intensity value and digital
pixel data into analog data;

and means for modulating intensity.

10

29. A printing system according to claim 28 wherein the
ramp rate is defined as the percentage of modulation per in-scan
pixel.

15

30. A printing system according to claim 28 wherein the
intensity value is computed from a ramp rate and an initial value
by an integrator.

20

31. A printing system according to claim 28 wherein the
intensity value and digital pixel data are converted into analog
data by a multiplier.

25

32. A printing system according to claim 28 wherein a means
for modulating intensity is amplitude modulation.

30

33. A printing system according to claim 32 wherein the
amplitude modulation is accomplished by an Acousto-Optic
Modulator.

34. A printing system according to claim 28 wherein the
means for modulating intensity is phase modulation.

35

35. A printing system according to claim 28 wherein the
means for modulating intensity is frequency modulation.

1 45223/TJD/O125

36. A printing system according to claim 28 wherein the means for modulating intensity is code domain modulation.

5

10

15

20

25

30

35

09882138-061501
105190-88128860